

Notice of Allowability

Application No.

10/004,539

Examiner

Angela J. Martin

Applicant(s)

ZGURIS, GEORGE C.

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/29/04.
2. ☒ The allowed claim(s) is/are 52-63,75,77-83 and 120.
3. ☒ The drawings filed on 26 June 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 8/26/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In the first line of the specification, please insert -- This application is a continuation in part of U.S. Pat. Application, 09/261,646, which is now U.S. Pat. No. 6,306,539, which is a continuation in part of U.S. Pat. Application, 8/923,876, which is now U.S. Pat. No. 6,071,641. --

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. John C. Purdue on August 26, 2004.

The application has been amended as follows:

Please cancel non-elected claims 1-51.

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance:

The Applicant claims in a storage battery comprising a plurality of lead plates in a closed case, a fibrous sheet plate separator between adjacent ones of the plates, and sulfuric acid electrolyte absorbed by each of the separators, the improvement wherein the separator sheets consist essentially of intermeshed glass fibers, intermeshed organic fibers, or intermeshed glass and organic fibers produced by opening bundles of the fibers, suspending the carded fibers in a gaseous medium, carding the suspended fibers, and collecting the carded fibers on a foraminous material, with the proviso that the mass of fibers has a BET surface area of from 0.2 to 5 m² per gram.

In the prior art of record, Nelson et al., U.S. Pat. No. 4,606,982, teaches a storage battery comprising lead plates in a closed case, a fibrous sheet plate separator between adjacent plates, and sulfuric acid electrolyte, wherein the separator sheets consist of intermeshed glass fibers, the mass of fibers having a BET surface area of from about 1.5 to about 3.0 m² per gram. The Applicant has presented evidence establishing an unobvious difference between the claimed product and the prior art product. The separator of Nelson et al., is a pasting paper (made by wet paper-making process) whereas the separator of the instant application is a dry laid separator. Figs. 5 and 6 are graphic examples of evidence in the instant application that there are significant differences in the properties of the dry laid separator vs the wet laid (paste)

separator. In addition, page 17, line 19 through page 18, line 5, describes tests comparing batteries having dry laid separators with prior art batteries having wet laid separators, which describes that the battery of the invention requires only about three-fifths as much separator material as the prior art battery separator.

However, the prior art of record, taken either alone or in combination, fails to disclose or render obvious in a storage battery, the separator sheets consist essentially of intermeshed glass fibers, intermeshed organic fibers, or intermeshed glass and organic fibers produced by opening bundles of the fibers, suspending the carded fibers in a gaseous medium, carding the suspended fibers, and collecting the carded fibers on a foraminous material, with the proviso that the mass of fibers has a BET surface area of from 0.2 to 5 m² per gram.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJM


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700